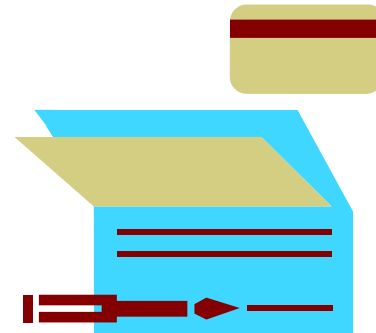# EBT Technology Basics

October 26, 2010

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Agenda

- Benefit Issuance and Redemption

- MIS vs. EBT Functions
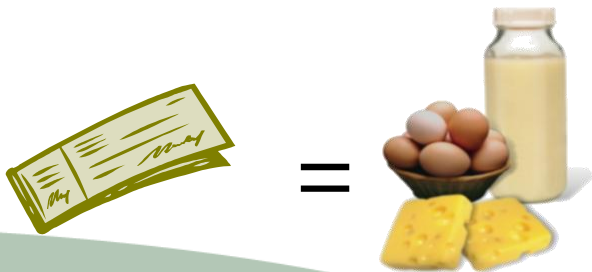
- EBT Technologies

BENEFIT ISSUANCE

Paper vs. EBT: Issuance

Paper System:

- Food items are printed on a paper food instrument and verified by a cashier at the time of purchase.

- Paper food instruments are issued to each participant within a household.

EBT:

- Food items are represented in an account using a categorization standard (tied to universal product codes or UPCs) and available amount

- Participant benefits are aggregated into one household account (single card).

Food Categorization

- Food prescriptions are reduced to individual food items and defined using national standards

- Foods are represented by:

  - Category

  - Subcategory

  - Quantity

  - Unit of measure

- In an EBT account, each individual food (Cat/Subcat) has its own balance

Cat/Subcat Table (sample)

Food Item	Cat	Subcat	Description	Unit
Cheese **or Tofu**	02	000	Cheese in 8 oz and 16 oz Packages	Pound
		001	Cheese in 8 oz and 16 oz Packages	Pound
		002	Reduced Fat Cheese in 8 oz and 16 oz Packages	Pound
		003	Low Sodium Cheese in 8 oz and 16 oz Packages	Pound
		004	Tofu in 8 oz and 16 oz Packages	Pound
Eggs	03	000	Eggs – In Dozen Cartons	Dozen
		001	Fresh eggs in Dozen Cartons	Dozen
		002	Dry Eggs (Powder)	Dozen
		003	Shelled Eggs	Dozen
		004	Boiled Eggs	Dozen
Cereal	05	000	Cereal - hot and cold	Ounce
		001	Cereal - hot and cold	Ounce
Legumes	06	000	Beans/Peas 16 oz or Peanut Butter 18 oz	Cont
		001	Peanut Butter 18 oz	Cont
		002	Dry or Can Beans/Peas 16 oz (1 Bag = 4 Cans)	Cont
		003	Canned Beans - Homeless Packaging	Cont

EBT Benefit Issuance (example)

- Benefit Issuance – Dried Beans/Peas 16 oz or Peanut Butter 18 oz:

  - Category 06 = Legumes

  - Subcategory 000 = Any Beans/Peas 16 oz or Peanut Butter 18 oz

  - Unit of measure is Cont (Container)

  - Quantity is 1 Cont

  - Prescription = 06-000-001

Subcategories: Specific vs. 000

- Specific Subcategories: Any subcategory except 000

  - Allows benefits issued to be restricted to a specific subcategory

  - For example, Legumes (Cat 06) can been restricted to Dried Beans/Peas (Subcat 002) meaning that the cardholder can only purchase UPCs assigned as Dried Beans/Peas.

  - Infant formula is always issued to a specific subcategory

- 000 Subcategory: "Broadband," "Wild Card," or "Any"

  - Allows cardholders to buy items from multiple subcats within the same category

  - 000 is used in issuance; UPC(s) are assigned to a specific subcat and may be flagged as purchasable with 000

  - In the Legumes example above, 000 means that Peanut Butter (001) and Dry Beans/Peas (002) can be purchased, but not Canned Beans (Homeless Packaging 003) because it is not allowed to be purchased with 000**

Benefit Aggregation

- Benefits for participants within a household are aggregated (combined together) into a single household account

- This allows for one card to be used to access the benefits of all participants in the household versus one card per participant

- Potentially provides for better management of benefits within a household

BENEFIT REDEMPTION

Paper WIC vs. EBT: Redemption

Paper WIC Redemption:

- Participants must sign each FI
- WIC items must be separated
- Cashier must:
  - Know what items in the store are WIC authorized
  - Determine if items are WIC authorized and can be purchased with the FI
  - Check valid use dates
- Vendor must stamp FIs and deposit in bank or account or redeem from State Agency

EBT Redemption:

- Cardholder must enter a PIN
- WIC item separation not necessarily required
- The system determines which items can be purchased based on the UPC(s) scanned
- System determines daily settlement amount, vendor paid in 1 – 2 business days

Benefit Redemption

- UPC(s) and PLU(s) are used to identify WIC approved items in the store for a particular state agency

  - A UPC is typically represented by a bar code, which can be scanned

  - A PLU is a four to five digit code used mainly with fresh produce and bulk items (i.e., bananas = 4011)


- Each UPC or PLU is assigned to a specific category and subcategory, depending on the item it may also be purchased with broadband (000 subcat)

- A list of all State approved WIC items is maintained and distributed to POS systems in the Approved Product List (APL) file

- The APL is used as part of the transaction process to identify WIC vs. non-WIC items

Transaction Overview

- Card is swiped, inserted or number key entered and cardholder enters their PIN
- System validates the card, PIN and retailer
- Each food item scanned
  - Compared to APL to determine if it is an allowable WIC item
  - Compared to cardholder balance to determine if there is sufficient balance to purchase
- Store price captured for each food item
- Discounts such as coupons, loyalty cards or other specials are captured
- The system approves/denies the transaction, if approved:
  - The household's account balance is reduced by the amounts (qty) of each item being purchased, and
  - For items exceeding the NTE, paid amount for that item is reduced
  - Paid amount for the transaction calculated
- A receipt showing details of transaction and updated account balance is printed

MIS VS. EBT

MIS and EBT Environments
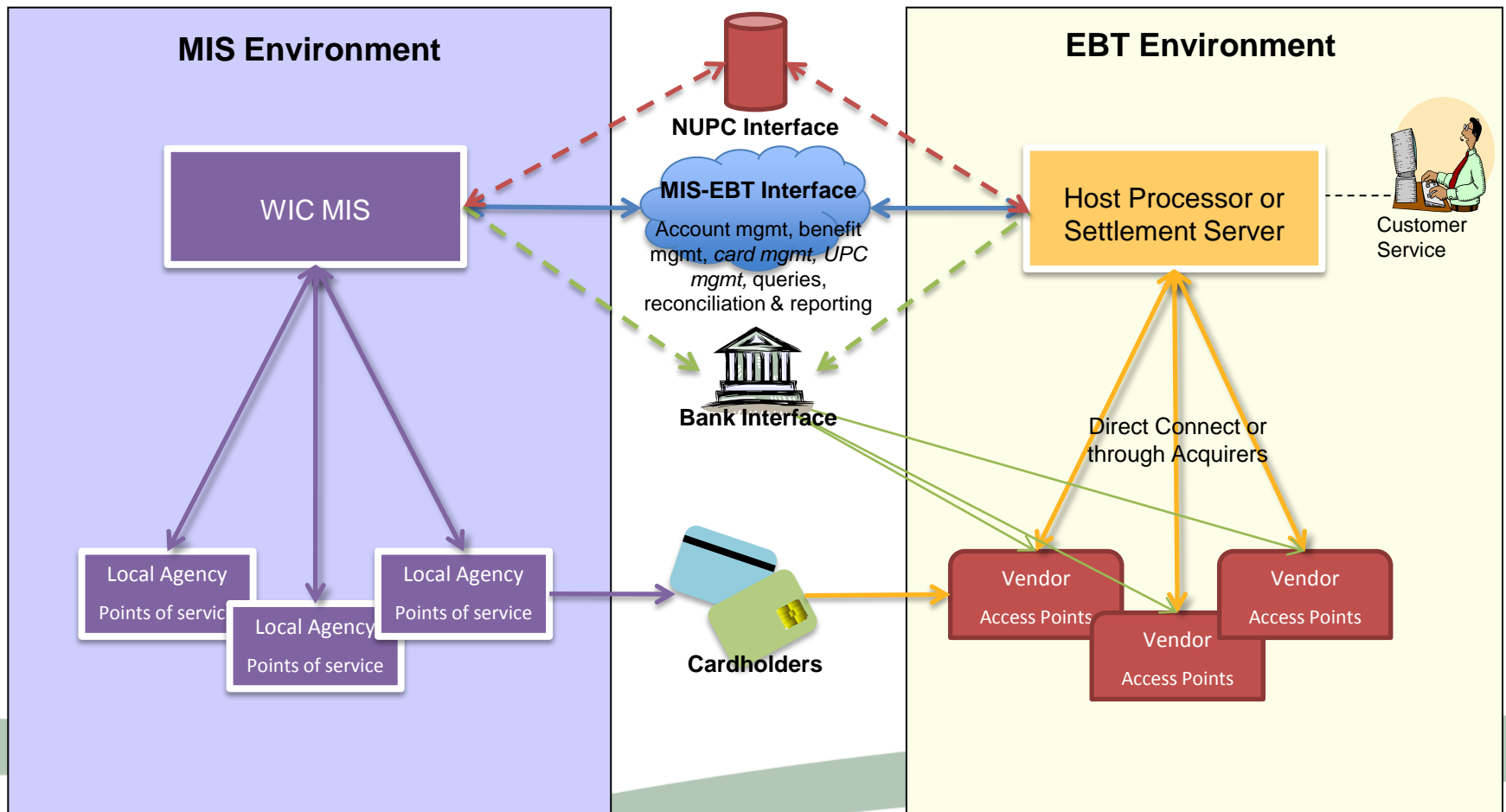
MIS Functions Supporting EBT

- Maintain participant / household demographics
  - MIS is the database of record
  - Transmits necessary demographic data to EBT system and/or card
- Benefit issuance
  - Determines benefit amounts
  - Transmits benefit data to EBT system and/or card
- *Card issuance*
  - *Assign cards to cardholders*
  - *Transmit card data to EBT system*
  - *Update card status and transmit card status changes to EBT system*
- *Maintain authorized vendor data*
  - *Transmits necessary vendor demographic and bank data to EBT system*
  - *Update vendor status and transmit vendor status changes to EBT system*

MIS Functions Supporting EBT

- *UPC and NTE maintenance*
  - *Interface with NUPC to download and upload UPC and Cat/Subcat data*
  - *Calculate NTEs based on data provided by the EBT system*
  - *Add/update UPCs*
  - *Transmit UPCs and NTEs to EBT system*
- Benefit reconciliation
  - Reconcile benefits transmitted to the EBT system with benefits received by the EBT system
  - Reconcile benefits issued with their final disposition
- Financial management/reporting
  - Provide required reporting using transaction data transmitted by the EBT system

FReD EBT-Readiness Functions for MIS

- Maintain Food Category/ Subcategory Table
- Maintain UPC Database for WIC Authorized Foods
- Establish Food Item Maximum Allowed Amounts
- Establish EBT Account
- Add Participant(s) to an Account
- Issue Electronic Benefits
- Issue EBT Card
- Obtain Account Balance
- Update EBT Account Information
- Remove Participant(s) from an Account

- Process Changes to Electronic Benefits
- Process Changes to Electronic Benefits (Benefit Adjustments, Voids and Reissuance)
- Process Changes to EBT Card (Status Changes/Card Replacements)
- Process Vendor Payment
- Retrieve Benefit Issuance File
- Retrieve Transaction History Data and Reconcile Redeemed Benefits with Issuance File
- Determine High Risk Vendors (EBT Environment)

Functions of an EBT System

- Account management
  - Maintain accounts by household
  - Accept and apply household or cardholder demographic data sent by MIS
- Benefit management
  - Accept and apply benefits data sent by MIS to correct household account
  - Maintain current balance
  - Maintain future benefits
- *Card issuance*
  - *Assign cards to cardholders*
  - Link card data with accounts
  - Maintain card status
  - *Update card status*

Functions of an EBT System

- Transaction processing
  - Support full set of transactions such as balance inquires and purchases
  - Validate card, PIN and vendor for each transaction
  - Offline: process daily claim files
  - Online: process real-time transactions
- *Maintain authorized vendor data*
  - *Add/update vendor demographic and bank needed for transaction processing*
  - *Maintain and update vendor status*
- *UPC maintenance*
  - *Interface with NUPC to download and upload UPC and Cat/Subcat data*
  - *Calculate NTEs based on transaction data*
  - *Add/update UPCs*

Functions of an EBT System

- Settlement
  - Determine the amount to be paid to each vendor (or entity) daily
  - Transmit payment amounts via ACH to financial institution*
- Financial Reconciliation
  - Support retailer auto-reconciliation
  - Reconcile transactions daily
  - Reconcile amount transacted with the amount paid
- Reporting / data extract
  - Support reporting of EBT activity
  - Provide daily extract of transaction data to MIS

*ACH transmission could be done by the MIS, but currently there are no states doing this.

EBT TECHNOLOGY COMPARISON

EBT Technology Overview

Offline:

- Uses smart cards that maintain benefit information on the card
- Transactions occur between the card and the retail system
- A daily claim file is transmitted to the EBT settlement server for processing payments

Online:

- Uses magnetic stripe cards to access account information on the EBT host system
- Transactions occur real-time between the retail system and the EBT host
- The EBT host system determines the settlement amount base on transactions that occurred during a set timeframe
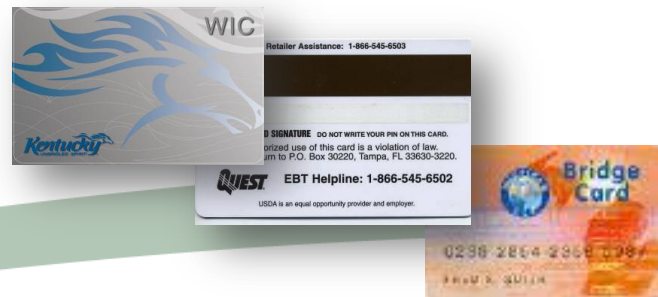
Card Technology
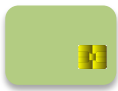
Offline:

- Contains a microchip with an operating system, software programs and storage

- Fully programmable – can store, update and process information

- Capable of handling complex encryption algorithms

- Can carry an individual's biometric template to validate that person with card is the person to whom it's issued

Online:

- Used widely in the financial industry (credit, debit, SNAP/cash EBT)

- Used to access an account, limited information encoded on the magnetic stripe

- Standard - ISO 7813 (track 2 encoding)

Card Issuance / Replacement
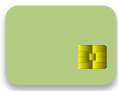
Offline:

- One card assigned per household
- Deactivated cards are added to a hot card list (HCL) distributed to vendors
- Cardholder must come to the clinic to receive a replacement card and to transfer the remaining benefits to the new card.
- Generally, a 48 hour waiting period to replace cards to ensure all claims have been sent

Online:

- Multiple cards can be assigned to a household
- A card replacement immediately links any remaining benefits in the household account to the new card number.
- A replacement card can be mailed to the participant or it can be issued immediately in the clinic.

Benefit Issuance

Offline:

- Benefits transmitted to smart card, central database updated through batch process

- No telecommunications is required to complete

- Requires smart card reader/writer

- Requires physical presence of card at issuance location

- Benefit changes require presence of card

Online:

- Benefits are posted to a central database over telecommunications lines

- Requires telecommunications from clinic to host system

- Requires availability of host system

- Card is not required to be present

- Benefit changes do not require presence of card

Redemption

Offline:

- The transaction occurs between the retail system and the chip on the EBT card
- The retail system does not need to access the EBT host system at the time of the transaction
- The retail system sends a batch file of all transactions once a day to the EBT host system to update account balances and determine settlement amounts

Online:

- The transaction occurs between the retail system and the EBT host system
- The retail system must be able to access the EBT host system at the time of the transaction
- Processing on the host system occurs real-time
- No daily batch file required, settlement based on transaction submitted throughout the processing day

Settlement

Offline:

- Claim files are uploaded each day to a central server where they are processed, reconciled, NTEs applied, and the vendor reimbursement is generated

- Settlement generally occurs within one or two days, but only for those transactions that are successfully uploaded

- Settlement is generally deposited to each store's bank account

Online:

- Settlement is calculated as each transaction is processed

- Based on a system end-of-day process, vendors may be reimbursed electronically the next business day for transactions approved prior to the daily cut-off

- Settlement is generally deposited to each store's bank account or intermediary processors may provide vendors with a combined (WIC plus other tender types) settlement
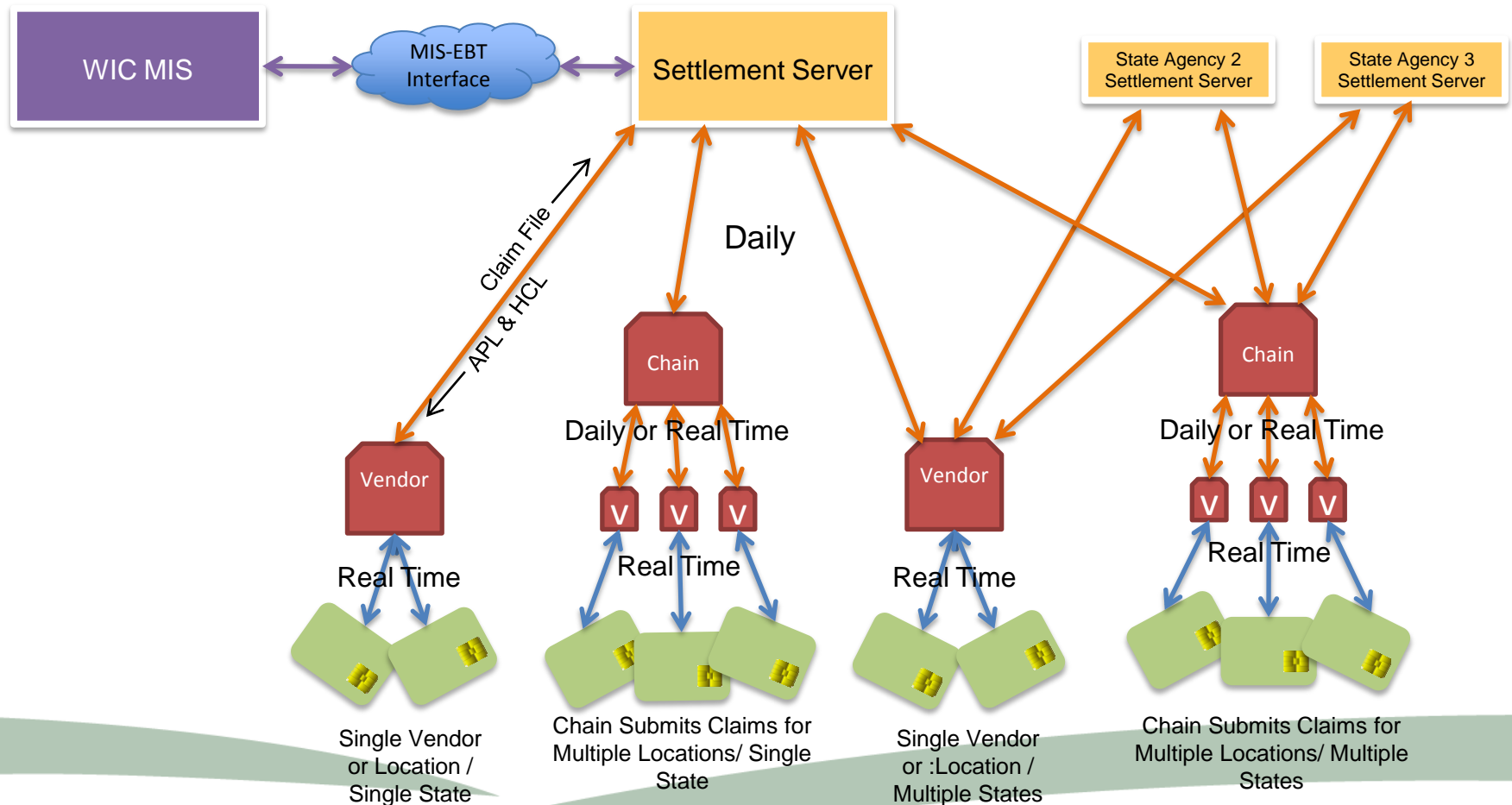
Security

Offline:

- Uses PIN security to access benefits contained on card.

- Requires presence of card to select or change the PIN.

- A transaction signature is used to ensure validity of all transactions presented in a claim file.

- State agency must manage key encryption process for State, clinic and retail equipment.
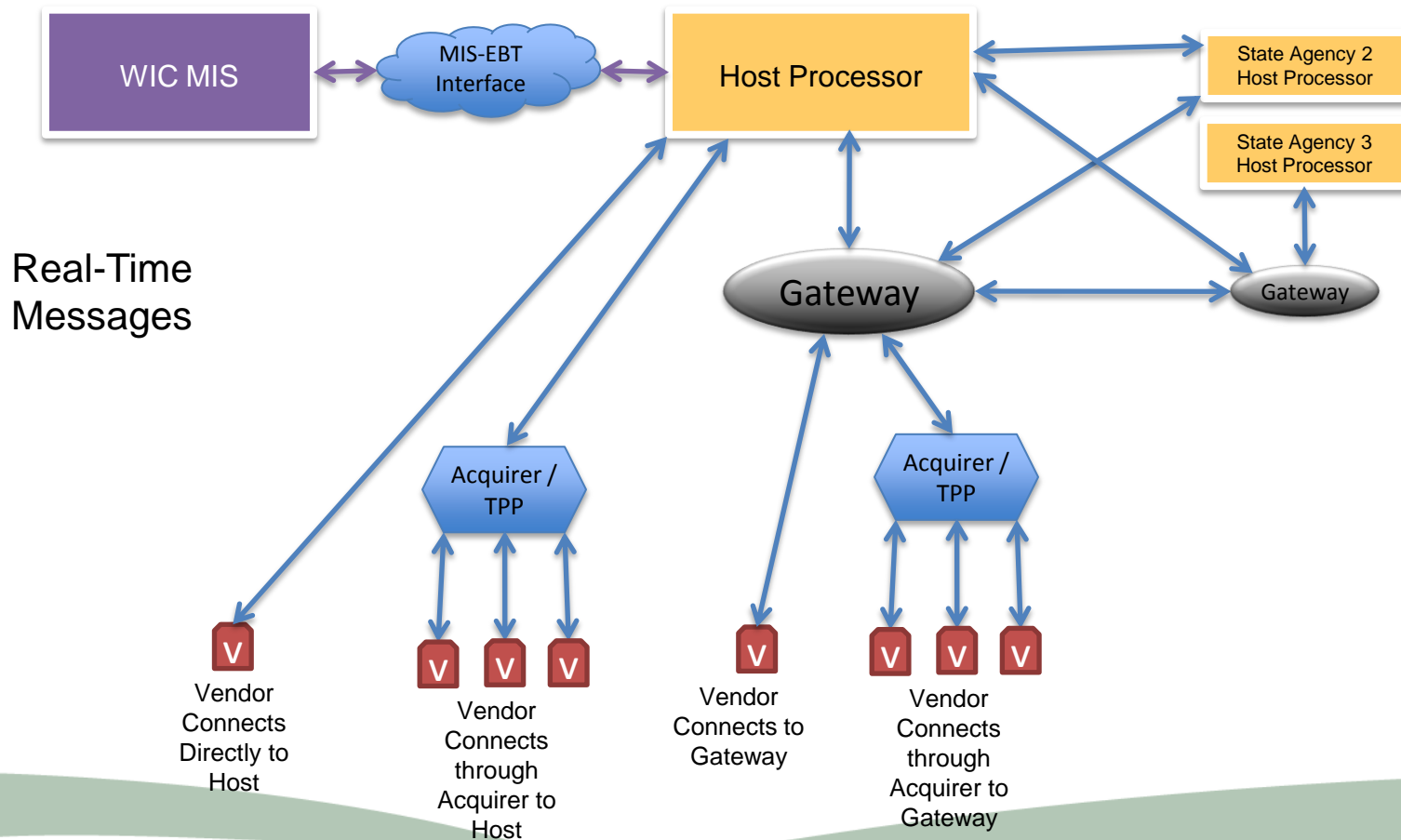
Online:

- Uses PIN security, encrypted for transmission and checked at host

- PIN can be selected and changed remotely using a telephonic interface

- State agency must manage key encryption process for State, clinic and retail equipment where an in-house model is used
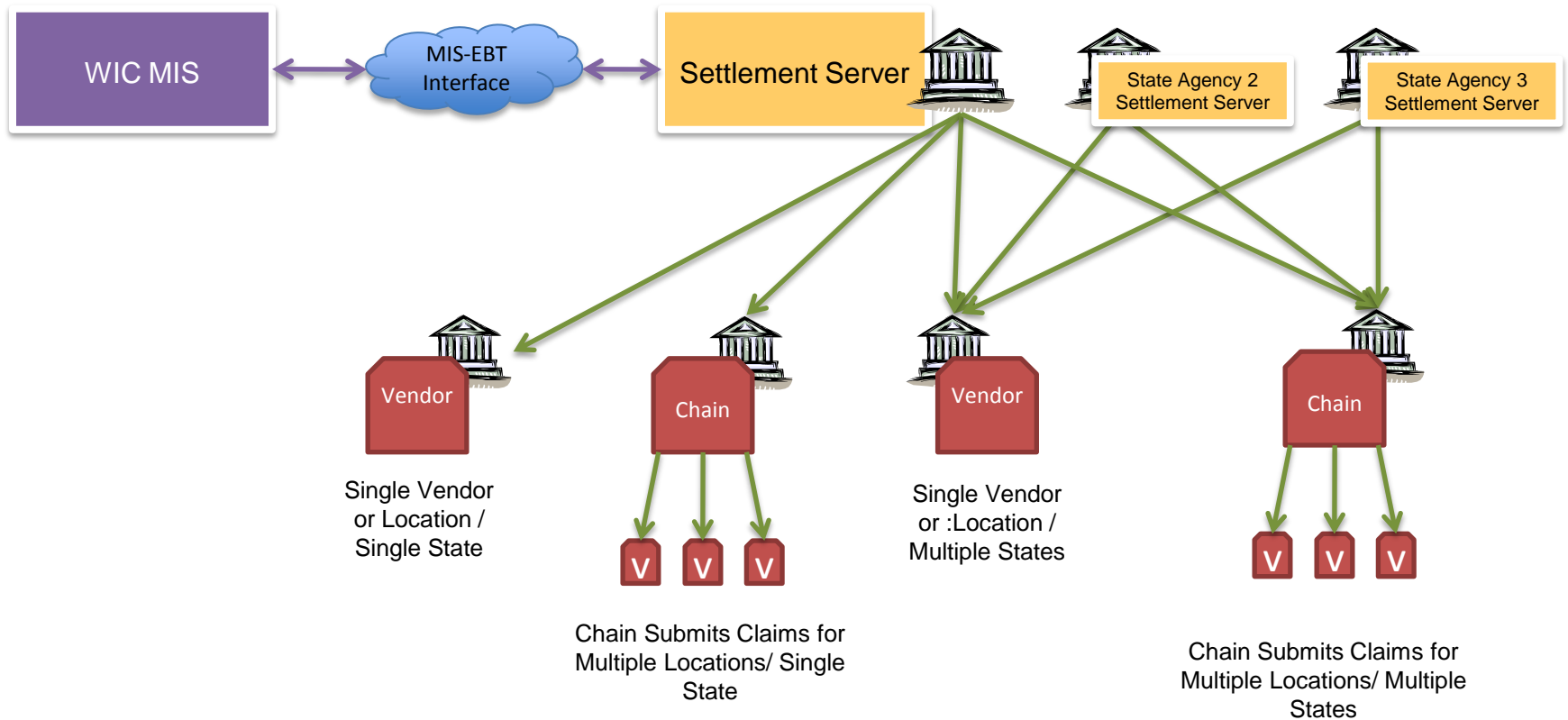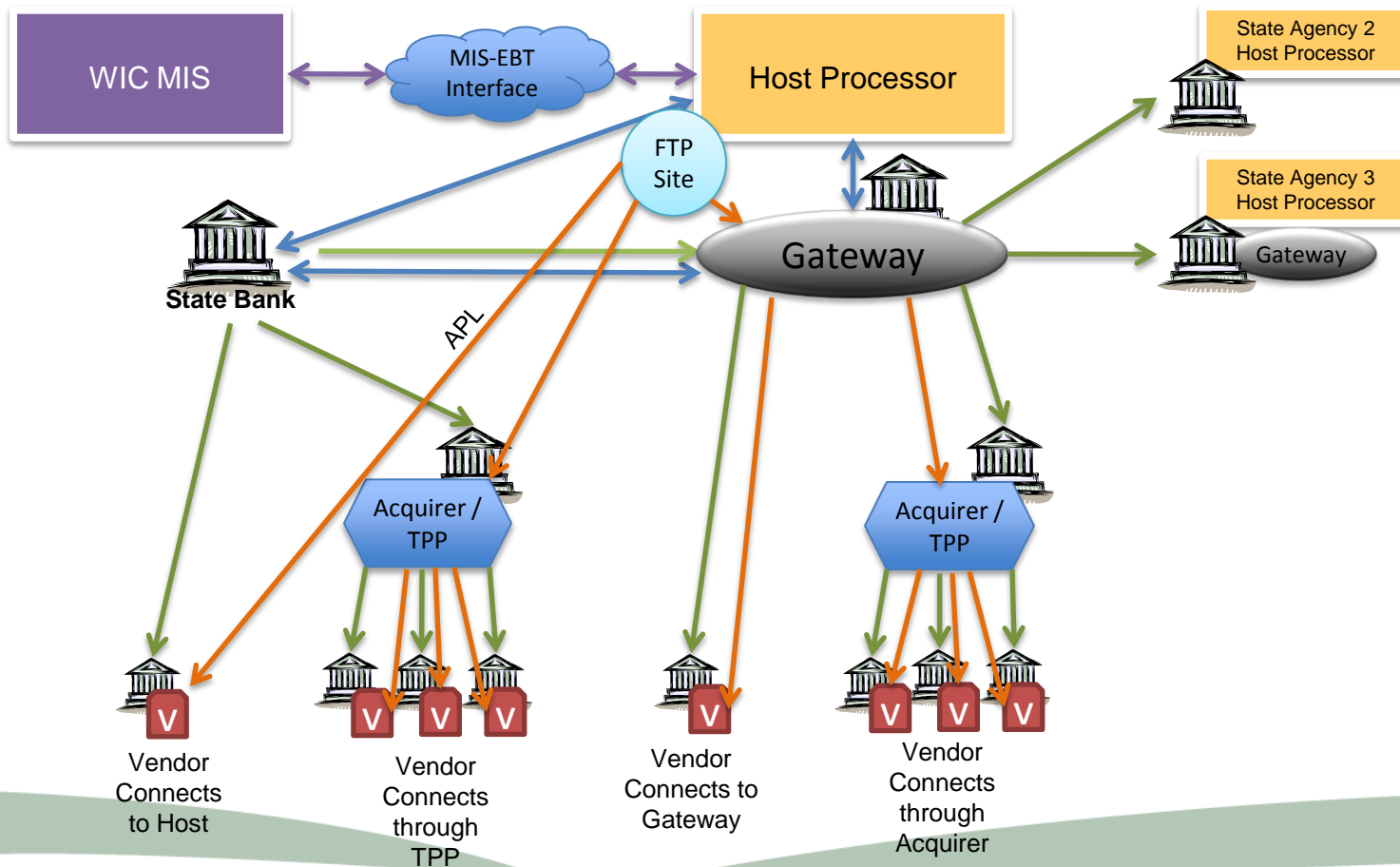
Offline Transaction Processing

Online Transaction Processing

Offline Settlement Processing

WIC MIS

MIS-EBT Interface

Settlement Server

State Agency 2 Settlement Server

State Agency 3 Settlement Server

Vendor

Chain

Vendor

Chain

Single Vendor or Location / Single State

Chain Submits Claims for Multiple Locations/ Single State

Single Vendor or :Location / Multiple States

Chain Submits Claims for Multiple Locations/ Multiple States

Online Settlement Processing

Implementation Approaches

- In-house: State Agency provides system hosting and all support services (i.e., help desk)
  - All offline projects are currently in-house operations, offline does not require 24x7 support
  - There are no online, in-house projects at this time, but could be possible with the transfer of the KY EBT source code. Online systems require 24x7 support.
- Outsourced: State agency contracts for system hosting and all support services
  - There have been outsourced offline projects in the past, new players are trying to break into the market
  - All of the online projects involve outsourcing, MI, NV and CN are fully outsourced
- Combination: State agency provides some functions and outsources others
  - KY outsources transaction processing and rollout support, the state agency supports the retailer helpdesk and ongoing stand-beside equipment support, and the clinics provide cardholder customer service.

Implementation Approach / Technology Matrix

	Offline	Online
In-house	• Wyoming • New Mexico • Texas • Isleta • Cherokee	• Kentucky (some functions)
Outsourced	• None currently • Previously OH, NV and WY	• Michigan • Kentucky (some functions) • Nevada, • Chickasaw Nation

Questions??